

Typhoon Doyle was the second midget storm of the 1981 season and followed (Typhoon Bill (19), the first of the midget storms) by less than three weeks. Doyle and Bill were very similar in size, intensity and track. Doyle was also unusual in that all of the warnings were based on satellite imagery analysis.

Doyle was first detected as an apparent mid-to-upper-level disturbance early on 18 September near 25N 178E. The disturbance built down to the surface as it drifted westward at 8 kt (15 km/hr). A Tropical Cyclone Formation Alert was issued at 190600Z when low-level cumulus banding became apparent on satellite imagery. The first warning was issued at 200600Z based

upon Dvorak analysis of visual satellite data which indicated that Tropical Storm Doyle had an estimated intensity of 35 kt (18 m/sec).

Doyle initially tracked west-northwest then recurved around a mid-tropospheric anticyclone. As Doyle recurved he became entrained in strong westerlies and accelerated rapidly northeastward. Doyle then started to weaken over the cooler waters north of 30N, finally losing tropical characteristics near 39N 172E when the system merged with an existing front. Typhoon Doyle was never larger than 180 nm (333 km) in diameter, even though the maximum intensity was 80 kt (41 m/sec) (Fig. 3-21-1).

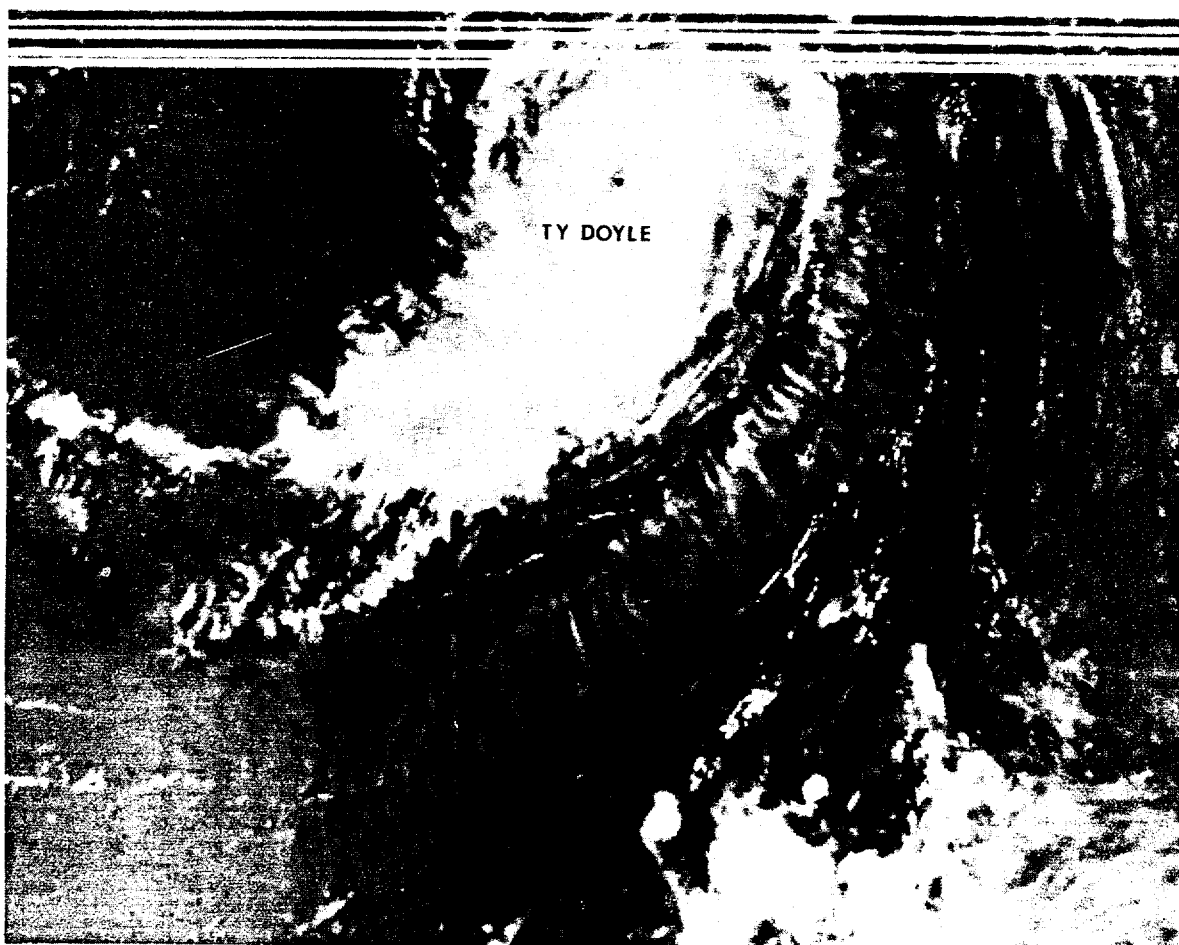


Figure 3-21-1. Doyle's compact size is graphically illustrated in this 210317Z satellite data. Note the well developed eye. At this time, Doyle was approximately 400 nm (741 km) northeast of Marcus Island. (NOAA 6 visual imagery)